



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,625

09/21/2006

Satoshi Hoshi

0649-1366PUS1

1927

2292 7590 01/14/2009
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

EOFF, ANCA

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

01/14/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/593,625	Applicant(s) HOSHI ET AL.	
	Examiner ANCA EOF	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7- 8, 12-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-8, 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-5, 7-8 and 12-14 are pending. Claims 6 and 9-11 have been canceled.
2. The foreign priority documents JP 2004-086216 filed on March 24, 2004, JP 2004-086217 filed on March 24, 2004 and JP 2004-089828 filed on March 25, 2004 were received and acknowledged. However, in order to benefit of the earlier filing dates, certified English translations are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 5, 7 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US Pg-Pub 2003/0186162).

With regard to claims 5-7 and 13, Takahashi et al. disclose a hydrophilic member precursor used as planographic printing plate precursor (abstract). The hydrophilic member precursor comprises a support substrate and a layer comprising a hydrophilic polymer (par.0036).

The hydrophilic polymer is obtained by copolymerizing a hydrophilic monomer with an ethylene addition-polymerizing unsaturated group-having monomer (par.0079), wherein the hydrophilic monomer may comprise groups such as a carboxyl group, a sulfonic acid group, a phosphonic acid group (par.0080).

Takahashi et al. further disclose that is preferable to copolymerize the hydrophilic monomer with allyl-group-having monomers, such as allyl (meth)acrylate and 2-allyloxyethyl methacrylate (par.0082).

In Example 4-1, Takahashi et al. specifically show an allyl methacrylate / methacrylic acid copolymer used for the hydrophilic polymer-containing layer.

The allyl methacrylate/methacrylic acid copolymer of Takahashi et al. is equivalent to the copolymer E) of the instant application, wherein the allyl methacrylate unit is equivalent to the unit (a1) having at least one polymerizable group and the methacrylic acid unit is equivalent to the unit (a2) comprising a support adsorptive group.

The methacrylic acid unit is also equivalent to the unit of the copolymer E) which comprises a hydrophilicity imparting group.

Takahashi et al. further disclose that an image-forming layer may be formed on the support with the hydrophilic surface (par.0131).

The image-forming layer of Takahashi et al. is equivalent to the image recording layer of the instant application and the layer comprising a hydrophilic polymer of Takahashi et al. is equivalent to the underlayer of the instant application.

The image-forming layer of Takahashi et al. may be a negative-sensitive composition (par.0134, par.0165), which may comprise a photopolymerization initiator and an addition-polymerizing unsaturated compound (par.0169) and may be imaged/exposed with light sources of wavelength over 400 nm (par.0184).

Takahashi et al. further disclose that the planographic printing plate precursor may be directly set in a printer, not undergoing any special development, in which it receives ink and dampening water and acts as printing plate in an ordinary manner (par.0309). This feature is equivalent to the limitation of claim 5 that the printing plate precursor is capable of being removed using printing ink and/or fountain solution and the limitation of claim 13 that the printing after exposure is performed with printing ink and fountain solution.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Mitsumoto et al. (US Pg-Pub 2004/0197701) and in further view of Sunichi et al. (JP 2003-223007).

With regard to claim 1, Sugasaki et al. disclose a photosensitive composition specially suited to fabricate a lithographic printing plate precursor, said composition comprising:

- a linear organic polymer as a binder (par.0069), equivalent to the component (C) of the instant application;

- a polymerizable compound (monomer) (par.0073), equivalent to the component (B) of the instant application, and

- a polymerization initiator (par.0083), equivalent to the component (A) of the instant application.

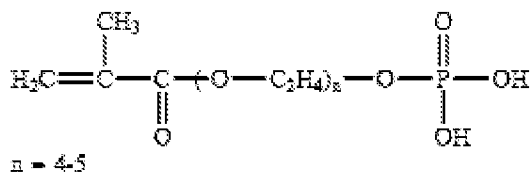
In fabricating a lithographic printing plate, the photosensitive layer is desirably formed on a support having a treated surface to form a priming layer (par.0315).

However, Sugasaki et al. fail to disclose that the priming layer/undercoat of the instant application.

Mitsumoto et al. teach a presensitized plate comprising a support having thereon an image recording layer (abstract). Mitsumoto et al. further disclose that an undercoat layer may be provided between the image recording layer and the support (par.0283).

The coating amount of the undercoat layer is preferably from 3 to 30 mg/m² (par.0285).

Mitsumoto et al. specifically disclose a composition for the undercoat layer, said composition comprising water, methanol and the compound represented by the formula (I):



(I) (par.0414).

The composition for the undercoat layer meets the limitation of the instant application since it consists essentially of a compound with a polymerizable group, a group of formula $-OPO_3H_2$ and a group of formula $-(OCH_2-CH_2)_n-$, wherein $n=4-5$.

The presentized plate comprising the underlayer formed by the above-mentioned composition leads to impressions free of contamination in non-image areas after less than 200 sheets (par.0423).

Since the composition of Mitsumoto et al. is successfully used as undercoat for a light sensitive layer/image forming layer of a lithographic printing plate, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the composition for undercoat layer of Mitsumoto et al. for the priming layer/undercoat of Sugasaki et al., with a reasonable expectation of success.

Sugasaki et al. further disclose that the photosensitive composition may be exposed with lasers, such as Ar ion laser (364 or 351 nm), Kr ion laser (356 nm or 351 nm) and He-Cd laser (325 nm) (par.0331), which shows that the composition has sensitivity for radiation of the above-mentioned wavelengths.

Sugasaki et al. further disclose that by choosing highly water-soluble materials for the photosensitive layer, the plate precursor can be processed by on-press exposure and development (par.0334), which is equivalent to the development with ink and/or fountain solution of the instant application.

However, Sugasaki et al. and Mitsumoto fail to disclose that the exposure is performed with a one-pixel drawing time of 1 millisecond or less.

Sunichi et al. disclose a method of making a printing plate (par.0001), the method comprising an exposure step using a DMD (digital mirror device) as aligner (par.0004, par.0017) and radiation with a wavelength between 350 nm and 450 nm (par.0017). The exposure time per pixel is between 1 and 100 microseconds (par.0018).

A plate that shows good properties regarding the handling during the production process and good printing durability can be obtained (par.0007).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to perform the exposure process of Sugasaki modified by Mitsumoto with a one-pixel exposure/drawing time of 1-100 microseconds as disclosed by Sunichi et al., with a reasonable expectation of success.

With regard to claims 2 and 4, Sugasaki et al. disclose that the printing plate can be exposed with lasers, such as a combination of Nd: YAG and two SHG crystals (355 nm) (par.0331) and the exposure mechanism includes an internal drum system (par.0334).

With regard to claim 12, Sugasaki et al. further disclose that the printing plate precursor can be processed by on -press exposure and development (par.0334), which means that the development is done with printing ink and/or fountain solution and then printing is performed.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Mitsumoto et al. (US Pg-Pub

Art Unit: 1795

2004/0197701) and Sunichi et al. (JP 2003-223007) as applied to claim 1 above and in further view of Fujii et al. (US Pg-Pub 2002/0180944).

With regard to claim 3, Sugasaki modified by Mitsumoto and Sunichi teach a photosensitive composition and a method of exposing the photosensitive composition as applied to claim 1 above (see paragraph 6 of the Office Action) but fail to teach that the exposure is performed using an optical system comprising a DMD (digital mirror device) or a GLV (grating light valve).

Fujii et al. disclose an exposure device comprising a scanner including a high-power laser light for emitting a light beam within a predetermined wavelength region and a photosensitive material that is sensitive to the predetermined wavelength region, using said light beam which is modulated in accordance with image data (par.0022). A predetermined wavelength region is preferably 350 nm to 420 nm and more preferably 405 nm at which a maximum power can be outputted by using an inexpensive GaN semiconductor laser (par.0026). An example of photosensitive material is a planographic printing plate (par.0045).

It is preferably that the exposure portion comprises a spatial light modulator to modulate the light beam, such as a digital mirror device (DMD) or grating light valve elements (GLV) of a reflective diffracting grating type (par.0028).

Fujii et al. further disclose that such spatial modulators can be used with high stability even if the high-power laser light source outputs several tens of dozen watts and so it is possible to improve the reliability of the exposure device even when the exposure is conducted by using high-power laser sources (par.0028).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to perform the exposure of the photosensitive composition of Sugasaki modified by Mitsumoto and Sunichi using the exposure device with DMD or GLV spatial modulators and laser radiation of 405 nm as disclosed by Fujii et al., in order to take advantage of the improved reliability of the exposure device (Fujii et al., par.0028) and of a relatively inexpensive source of radiation (Fujii et al., par.0026).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US Pg-Pub 2003/0186162) in view of Saeva et al. (US Patent 5,141,969).

With regard to claim 8, Takahashi et al. disclose the printing plate of claim 5 (see paragraph 4 above), wherein the exposure/imaging of the printing plate precursor may be done with visible light not shorter than 400 nm (par.0184). Takahashi et al. disclose that various types of optical initiators may be used but fails to specifically disclose that onium salts may be used for exposure/imaging with visible light not shorter than 400 nm.

Saeva et al. disclose onium salts used as photoinitiators, said salts being capable to form an acid upon exposure to visible radiation (abstract). The onium salts of Saeva et al. may be used for printing plates (column 11, lines 44-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the onium salts of Saeva et al. as photoinitiators in the composition of Takahashi et al., such use being specifically taught by Saeva et al.

Art Unit: 1795

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US Pg-Pub 2003/0186162) in view of Furukawa et al. (US Pg-Pub 2001/0018164).

With regard to claim 14, Takahashi et al. disclose the printing plate of claim 5 (see paragraph 4 above), wherein the exposure/imaging of the printing plate precursor may be done with visible light not shorter than 400 nm (par.0184) but fail to disclose a laser with wavelength less than 420 nm, as required by the instant application.

However, it is known in the art that a planographic printing plate precursor may be exposed with a violet laser diode of 405 nm, as evidenced by Furukawa et al. in par. 0082.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to image/expose the planographic printing plate precursor of Takahashi et al. with a violet diode laser of 405 nm, based on Takahashi's teachings that imaging may be preformed with visible light with a wavelength over 400 nm and Furukawa's teaching that a violet laser diode is successfully used for imaging a printing plate precursor.

Response to Arguments

10. Applicant's arguments with respect to claims 1-5, 7-8 and 12-14, filed on November 04, 2008 have been considered but are moot in view of the new grounds of rejection.

On pages 5-7 of the Remarks, the applicant shows how the amended claims overcome the prior art rejections of the previous Office Action. However, new grounds of rejection are presented above in paragraphs of the Office Action.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

Art Unit: 1795

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./
Examiner, Art Unit 1795

/Cynthia H Kelly/
Supervisory Patent Examiner, Art Unit 1795